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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,882	01/23/2004	Taku Kodama	6453P029	6013

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EXAMINER

LEE, JOHN W

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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05/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/763,882	Applicant(s) KODAMA ET AL.	
	Examiner John Wahnkyo Lee	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20040422</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. An initialed and dated copy of Applicant's IDS form 1449, Paper No. 20040422 is attached to the instant Office action.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 10 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 10 is drawn to functional descriptive material embodied on a computer readable medium or a machine readable medium (i.e., "data structures and computer programs which impart functionality when employed as a computer component" at MPEP 2106.IV.B(1)). However, the program/algorithm itself merely manipulates data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application in the technological arts. MPEP 2106.IV.B.2(a) (Statutory Product Claims) states:

"A claim limited to a ... manufacture, which has a practical application in the technological arts, is statutory."

In order for a claimed invention to accomplish a practical application, it must produce a "useful, concrete and tangible result" *State Street*, 149 F.3d at 1373, 47

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USPQ2d at 1601-02 (see MPEP 2106.II.A). Currently, the claim does not recite a practical application. In order to for the claimed product to produce a “useful, concrete and tangible” result, recitation of one or more of the following elements is suggested:

- The manipulation of data that represents a physical object or activity transformed from outside the computer (MPEP 2106 IVB2(b)(i)).
- A physical transformations outside the computer, for example in the form of pre or post computer processing activity (MPEP 2106 IVB2(b)(i)).
- A direct recitation of a practical application in the technological arts (MPEP 2106 IVB2(b)(ii)).

Claims 11-16 mirror and do not overcome the deficiency enumerated for claim 10. Therefore, claims 11-16 should likewise be rejected as non-statutory.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4, 7, 9-10, 13, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Sano et al. (US 7,158,679).

Regarding claim 1, Sano discloses an image compression apparatus comprising an image divider that divides the still image using rectangular tiles based on a tile size determiner (col. 6, lines 1-9) through a tile division process (col. 11, lines 60-61). The tile of Sano's invention can be a region of the still image. After the tile division process, three sets of processing blocks are provided as a first, second, and third component (Fig. 10; col. 11, lines 62-64). Each of the components is encoded through an entropy coder (Fig. 10-53₁, 53₂, and 53₃; col. 11, lines 64-67; col. 12, 1-10). The encoded components are output from a tag process (Fig. 10-54; FIG. 21-S16; col. 15; lines 16-17) that combines all coded data from the entropy coder into a single codestream (col. 3, lines 43-46).

Regarding claim 4, Sano discloses including two-dimensional reversible wavelet transformers (Fig. 10-51₁, 51₂, and 51₃) and a quantization (Fig. 10-52₁, 52₂, and 52₃) prior to the entropy coders for the first, second, and third component (col. 11, 58-67; col. 12, lines 1-10).

Regarding claim 7, Sano discloses a tile size determiner that determines the size of a rectangular tile of each component for s still image having a plurality of components and provides information to the image divider (col. 6, lines 1-9; col. 10, lines 5-11).

Regarding claim 9, claim 9 is analogous and corresponds to claim 1. See rejection of claim 1 for further explanation.

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Regarding claim 10, claim 10 is analogous and corresponds to claim 1. Sano discloses that Sano's invention can be embodied in a computer readable recording medium having a program embodied in the medium therein for causing a computer to perform (col. 15, lines 28-59). See rejection of claim 1 for further explanation.

Regarding claim 13, claim 13 is analogous and corresponds to claim 4. See rejection of claim 4 for further explanation.

Regarding claim 16, claim 16 is analogous and corresponds to claim 7. See rejection of claim 7 for further explanation.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 5-6, 11, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (US 7,158,679) in view of Navon et al. (US 7,085,422).

Regarding claim 2, Sano discloses all the claim limitations of the previous claims except the detail claim limitation of claim 2. However, Navon discloses an invention compressing the foreground and the background separately, typically with the foreground stored with a higher quality compression method than the background (col. 3, lines 46-50). The foreground may be compressed with an almost non-lossy

compression method, and the background may be compressed with a high lossy compression method (abstract; col. 3, lines 50-53).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Navon's method in Sano's image compression with tile alignment to provide an improved image separation and compression tool as suggested by Navon (col. 1, lines 34-35).

Regarding claims 5 and 6, Navon further discloses a method for image separation of an image as the foreground comprising text and graphics (col. 4, lines 22-23) and the background (abstract; col. 3, lines 32-45). Navon especially discloses that higher quality compression is used for the foreground than the background because the foreground can be more important than the background (col. 3, lines 37-53).

Regarding claim 11, claim 11 is analogous and corresponds to claim 2. See rejection of claim 2 for further explanation.

Regarding claims 14 and 15, claims 14 and 15 are analogous and correspond to claims 5 and 6, respectively. See rejection of claims 5 and 6 for further explanation.

8. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (US 7,158,679) in view of Huang et al. (US 7,076,108).

Regarding claim 3, Sano discloses all the claim limitations of the previous claims except the detail claim limitation of claim 3. However, Huang teaches using various and multiple-level quantizations (col. 8, lines 39-65).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Huang's method in Sano's image compression with tile alignment to raise the compression ratio and satisfy visual reception as suggested by Huang (col.8, lines 39-40).

Regarding claim 12, claim 12 is analogous and corresponds to claim 3. See rejection of claim 3 for further explanation.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (US 7,158,679) in view of Islam et al. (US 6,697,521).

Regarding claim 8, Sano discloses an image compression apparatus comprising an image divider that divides the still image using rectangular tiles based on a tile size determiner (col. 6, lines 1-9) through a tile division process (col. 11, lines 60-61). The tile of Sano's invention can be a region of the still image. After the tile division process, three sets of processing blocks are provided as a first, second, and third component (Fig. 10; col. 11, lines 62-64). Each of the components is encoded through an entropy coder (Fig. 10-53₁, 53₂, and 53₃; col. 11, lines 64-67; col. 12, 1-10). The encoded components are output from a tag process (Fig. 10-54; FIG. 21-S16; col. 15; lines 16-17) that combines all coded data from the entropy coder into a single codestream (col. 3, lines 43-46). However, Sano does not disclose or teach the last three claim limitations of claim 8, but Maeda does. Maeda discloses that a codestream (Fig. 1-14) from the encoder module (Fig. 1-40) can be stored in a storage means (Fig. 1-8) for future use or transmitted to the decoder (Fig. 1-4) for reconstructing the image (col. 9,

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lines 18-22). In the image reconstruction process from the decoder, the decoding module (Fig. 1-50) reads the codestream and performs inverse quantization of the read image data into reconstructed transformed data (Fig. 1-150), and the reconstructed transformed data is converted to image data after the inverse wavelet transformation (Fig. 1-60; col. 9, lines 23-28).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use Islam's method in Sano's image compression with tile alignment to reduce the amount of data present in an image for encoding and transmission while maintaining the visual quality of the image as suggested by Islam (col. 2, lines 30-36).

Conclusion

10. No claims are allowed.

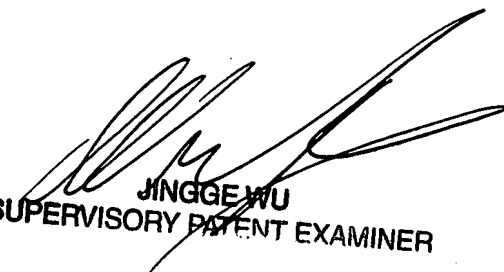
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Wahnkyo Lee whose telephone number is (571) 272-9554. The examiner can normally be reached on Monday - Friday (Alt.) 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John W. Lee
(AU 2624)



JINGGE WU
SUPERVISORY PATENT EXAMINER